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INDIVIDUAL AND SOCIAL MINDS[1]

WE have generally spoken of mind in the past as though it were made up of individual streams in abstract isolation from each other, each bound up with its own organism. We have become accustomed, thanks to the sharp abstractions of science, to look upon mind as subcranial. We can not, however, in my opinion, solve this difficulty of abstract isolation by substituting for mind organic reactions as some recent writers seem to do.[2] Mental behavior is not mere physiological behavior; and adding the *quale* of *interested* behavior merely introduces the problem of mind through the back door. For we must still define interest. This is no mere neutral light, but an energetic reaction between the will and a stimulus. The stimulus may be physicoorganic; it may be internal to the will's own rhythm; but it may also be another will. It is the relation in the latter case with which we are here concerned.

In assuming, as psychologists have done in the past, the isolation of minds, the relations between minds have necessarily been regarded as external relations. The continuities between minds have been assumed to be physical continuities, unless in some "spooky" instances of telepathy. We become conscious of other minds, it is supposed, only through analogy from physiological conduct, *i. e.*, we represent to ourselves that other people have minds from the similarity of their bodily behavior to our own, assuming, of course, that we have knowledge of our own minds from the start.

Why this precedence should be given to physical continuities is not easy to understand from the point of view of logic, though it is natural enough from the point of view of custom. The material

[1] This paper was read in part before The American Philosophical Association at its recent meeting at Columbia University. It is intended as a chapter in a forthcoming volume, "A Realistic Universe."

[2] See R. B. Perry in a remarkably keen article "The Mind Within and the Mind Without," this JOURNAL, Vol. VI., especially pp. 172–175. Perry reduces mind to organic behavior. It is significant that Perry draws his data from the comparative psychology of the lower animals, where mind is bound up exclusively with organic behavior. He does not deal with the intersubjective relations.

world has been too much with us. Early and late, through a long survival struggle with the sense environment, we have been directly dependent upon it for our immediate wants, while conscious cooperation with our fellows and the treatment of them as anything more than things—breathing bodies—is comparatively late and not overwidespread now. In the lowest animals, mind seems entirely enslaved to the organism and its needs. Blind impulse and habit seem here indeed a part merely of organic behavior, as our neorealist friends would have us believe of mind in general. In the higher animals the free association of ideas, the division of labor, and cooperation for common ends help to liberate mind from this instrumental relation to the body until, in civilized man, the relation is reversed: Body comes to be the instrument of mind, and the individual's world of ends comes to be found more and more in social companionship, in the mutual cooperation and appreciation of his fellows. This fellow world comes to be looked upon more and more, not as a mere artificial contract, but as the fulfilment of spontaneous and fundamental needs. A world of spiritual relationships thus arises where the individual lives and moves and has his being; and compared to this the solid physical world, through the progress of science, comes to seem more and more a plastic means.

This mastery, however, is made possible only by means of abstract thought; and abstract thought, indispensable as it is to this process of liberation, carries its own penalty. It tends to make us insensible to the immediate continuities of life. It cuts the world up into abstract elements. It atomizes its integral situations for descriptive purposes, and then unconsciously substitutes the instrument for the concrete interrelations of the real world. Thus conceptual thought, the most efficient of social institutions, dulls the sense of social continuity and reduces mind to a mere abstraction. Its relation to its world becomes a mere external relation, at the same time that the objective world is broken up into abstractions with their external relations. Incidentally thought, when thus cut loose from the concrete processes, for which it is to furnish the leading, makes itself impossible and absurd. A world made up of abstractions is no longer conceivable; and so thought in despair comes to discredit itself and to seek solace in mysticism.

It is one of the paradoxes of human development that conceptual thought, the social instrument by which mind dominates matter and secures efficient cooperation of mind with mind, should thus in theory have come to isolate mind in the universe, if indeed not make it a mere function of matter. As the substantives of thought occupy the foreground of our consciousness, it has made us correspondingly neglectful of that sense of immediate companionship of mind with mind

which furnishes the propelling motive of social cooperation, including abstract thought. Not that thought has destroyed the reality of companionship. Constructive imagination does not make men selfish, as some suppose. By liberating mind from the immediate sense world, it has, on the contrary, vastly enhanced both the need and the reality of spiritual association. It has made possible the relationship of friendship, the freest and most precious of social communions, where man rises above, not merely the slavery to animal want, but the bondage to tradition as well, and where soul meets soul on the basis of lasting ideal kinship. In practise, therefore, thought has well fulfilled its function as an instrument of the social mind, even though in theory it has resulted in social atomism. This defect, however, can be cured by thought itself when it recognizes its instrumental character and examines its deeper, though often subconscious, motives.

Perhaps Bergson is right that the higher insects with their concrete intuitive life and their lack of abstract thought are more keenly conscious of the real continuities than we. But at any rate they don't know it if they are, while we can with an effort at least call back thought to its original task of making clear and distinct our concrete intuitions.

We are thus, in the process of experience, literally differentiated out of a social continuum. In this process of differentiation, in this growing recognition of each other's reality, the combative instincts play the important rôle. We are no sooner brought together by the irresistible pull of the social tendencies—the instinct of gregariousness and the instincts bound up with sex, together with the more general tendencies of imitation and sympathy—than we, like children, fight to possess the same things. Perhaps we fight for physical things, perhaps for the mastery of the social situation, perhaps to emulate each other in a self-imposed task. And in the fight we discover the mutual reality of wills and our relative place in the scale of valuation. In the meantime the sense of companionship which pulls us together and holds us together in spite of the conflict, and even makes us enjoy the conflict, is in the background of consciousness and is apt to be overlooked by the intellectual attention. It may seem as though we were just together to fight, to be the interference and the torment of each other. We fail to realize that war itself, however destructive, and however clumsy and primitive a method of social evaluation, is a social process which "makes some gods, some men."

In brief, we may say that while at the start, both in race history and in individual history, the particular will is a rather blind function of an individual organism, in the growing civilized life of which we are a part the particular mind becomes rather a function of a so-

cial organization of mind, with its necessary division of labor and free or compulsory cooperation. In this spiritual economy of the world we are literally members one of another.

If we succeed in recovering to some extent the innocence of that immediate experience from which all our abstractions are made, we shall find, I think, that the isolation of mind from mind is based in prejudice, not in the intuited facts. The processes of external representation and analogical inference presuppose immediate social *acquaintance,* valuable though they are in our attempts to *know about* other minds. We do not start with a knowledge of our own minds and then eject it into other bodies, but we become conscious of being minds through our interaction with other minds. It is in meeting the other will, which thwarts and baffles it, that our own will awakes to its reality and claims. Except for this social interaction, this intersubjective tension, it would remain submerged in the physical continuities, a mere function of organic conduct as we find it to be in the non-social animals. Our knowledge of social continuities starts, like all knowledge of reality, with certain intuited facts. The intersubjective continuities are first of all *felt,* and they are felt to be different from physical continuities. This fact is more elementary than the representation or inference of other minds; and is presupposed by these intellectual processes. It is because we *feel* the continuities with other minds and must adjust ourselves to them that we try to know about them. Our intuition of *social* continuities is as immediate and elementary a fact as that of physical continuities; and from the point of view of knowledge, it is the demands of the social interactions which lead us to *distinguish* between intersubjective and physical continuities. We could not, therefore, very well infer the former from the latter.

The agnostic is at any rate consistently wrong. He does not hold that we have a true intuition of physical continuities, but are isolated as minds. He regards both continuities as subjective states. We thus live in a sort of middle world of phantasms (to use Hobbes's term)—a world neither mind nor body nor a copy of either, but a misrepresentation of both. Hence we can know no real things, we can trust no intuitions as regards either world. The pragmatic point of view,[3] on the other hand, insists that we must start with our immediate intuitions and beliefs and try to make them consistent and clear. And one of those intuitions is that of the first-hand and immediate character of social companionship. This for the mind, unspoiled by artificial abstraction, is as categorically convincing a fact as the immediate sense-continuities.

[3] My own conception of the pragmatic point of view I have tied to state in "Truth and Reality," Macmillan, 1911.

What is there to set over against this convincing intuition of social continuities? There is an abstract body of secondary beliefs. We still insist upon applying the molecular conception of interaction to the relation of mind to body. To the old type interactionist, it means that mind must somehow be located within the brain and give a push to its molecules. To the parallelist such interaction is inconceivable and absurd; and the only relation possible is that of inert concomitance and miraculous correspondence, while the materialist caps the climax by ruling out mind altogether except as the bare abstraction of a neutral consciousness.

The mechanical theory has long presented a similar difficulty as to physical interaction. This difficulty led Leibniz to deny any interaction between monads. It led physical science to discard the so-called secondary qualities, because, in their case, the characteristic action of the physical stimuli was supposed to stop with the end-organs. Just how the primary qualities got past was not explained, but merely taken for granted; and the agnostics and subjectivists, who were more consistent, had no trouble in insulating mind from any outer physical world. Such was the logic of the old mechanical hypothesis.

Fortunately we have come to know a type of energy which is not ponderable matter. The immaterial character of electricity was long obscured by our carrying over our mechanical models into the new field. The ether was invented with all sorts of contradictory properties to furnish a medium for this new energy. But whatever may be our belief as regards the existence of the ether, we have at any rate come to recognize that in electrical energy, in its various forms, we have a unique type of immaterial continuity which intersects and pervades the gross material framework in all sorts of ways. What is opaque to one wave-length becomes translucent to another—to X-rays or violet rays. However difficult it is to accustom our minds to the properties of this immaterial energy, we have here a type of continuity of far greater subtlety than known before—a type where molecular models cease to be applicable. As the discovery of free electricity has liberated the conception of this energy from matter, it is to be hoped that the conception of mind may also be liberated from the hypothetical models which have made our immediate convictions in the continuities of mind with the physical world and with other minds absurd.

As electrical energy *rides on* material energy and is thus focalized in definite directions, while yet establishing its own unique terminal continuities, so we may conceive that mental energy rides on electrical energy and yet establishes its own immediately intuited continuities. Within our own body the mental energy seems to

travel on the electrical energy of the nervous system. And why not on the electro-magnetic field and on the material vehicles with which our nervous system is continuous? When we send a voice over an electric wire, don't we also send the mental impulse which gives character and persuasiveness to that voice and makes a will at the other end respond to it in a definite way? Are we certain that the will to send the voice stays in the brain? That we believe so is due, I believe, to an artificial tradition.

I do not care to go on indefinitely and work out possible analogies between mental energy and electrical. They will easily suggest themselves and may easily be overworked. We have no more right to transfer the electrical conceptions bodily to the mental realm than we have to transfer the material conceptions to the electrical realm. What I wish to emphasize is that the conception of electrical fields of energy and their immaterial continuities across space, intersecting our gross material world, seems to furnish a model which fits in with our conviction in the immediate acquaintance of mind with mind. Let us substitute for the old conception of the soul as being an indivisible, localized atom, the conception of a field of energy with its vague penumbral edges or spreadings and its more or less focalized and shifting center of activity, and we shall have no intellectual obstacle to dealing with our social intuitions.

Such a conception conveys no new information. This must be gotten from experience as before and always. It does not support a telepathic hypothesis except as social experience indicates such an hypothesis. Our social continuities become no less mediated by a nervous system, end-organs and an intervening physical world, whatever its constitution may be, than before. It simply insists that mental energy rides across and over these other energies and establishes real overlappings, true continuities in its own right and kind. Whether more direct and free continuities across intervening space than those so mediated are possible under conditions of high intensity and the special receptivity of the polar fields must be established by evidence; but if so established no intellectual model need discredit them; and we must admit that there is being accumulated a number of uncanny instances that may point to a telepathy of this more special kind.

When once we abandon the dogma of the insulation of mind somewhere in the skull, there are many interesting phenomena about human relations that may throw light on the activity of this mental energy. Just exactly what is it that makes people attractive or repellant to each other and sometimes the opposite to different people and to the same people at different times? What is it that constitutes the "atmosphere" of some personalities and the absence of it

in others, or that gives some a positive, others a negative "atmosphere"? What is it that makes some psychically warm, others cold, and others colorless? Why do some people move us and others not, though the latter may have the better argument and the better cause? What takes place when we find a person animated in conversation? What constitutes the *rapport* between the speaker and his audience? These are just a few of the questions of every-day social life which we shall be able to understand better when we are ready to accept the intuition of immediate experience that the will is an energy which radiates beyond any definite center; that when we meet in sympathy two fields of will actually blend; and, *vice versa,* that they repel each other when we are antagonistic. Thus love and hate become real first-hand interactions of wills.

Language, gestures, and other sense symbols are merely the code for controlling or *canalizing* (to use Bergson's term) the intellectual associations and thus making definite the *meaning* of mental continuities. They do not constitute the continuities. Common moods and conative attitudes are possible without such symbols; but without them we can not be sure of the similarity of the associative trains of ideas and images that go with the attitudes. As these are bound up with the brain and are primarily physical, the direct communication of them becomes more difficult. Strangely enough it is the physical aspect of experience which particularizes or furnishes the hidden and only indirectly accessible factor in social communication. Music succeeds in producing common emotions and attitudes, but the intellectual associations vary greatly with different listeners. It is the former that furnish the directly intuited character of intersubjective continuities. It is reported that Carlyle and Tennyson would often visit together for a long time without either saying a word. Then Carlyle would get up and take his hat and say: "That was a good visit, Alfred." Silent communion of soul with soul may give us the strongest sense of companionship.

We have seen that we must recognize two types of continuity, material and immaterial. These two types may occupy the same space, the immaterial intersecting, riding over, and bridging the material in various ways. In a scientific way we have come to know one type of immaterial continuity with great definiteness, that of electricity. The other type of immaterial continuity, viz., the mental type of intersubjective communion, human beings have been acquainted with and convinced of since the beginning of social relations, but our knowledge of it is fragmentary. This is probably in part due to our scientific prejudice. In no case of spatial continuity, can we follow it point for point. We must piece out our percepts by means of our concepts in any *knowledge* of continuity. But we make

our concepts in any case to describe the intuited results. If we can understand these results only by assuming energetic confluence, *i. e.*, if somehow two energies must contribute directly to the new unity, then we have a right to believe that the continuity exists.

In a physical compound such as H_2O we know that there must be action of the chemical energies upon each other, because the result is not the mere external addition of the properties of the two elements as we know them in other contexts. The compound, water, is a new individual with distinct properties of its own. The relations are in part at least internal relations, affecting the nature of each element contributing. What is true in the physical compound is true in the social compound. The will of the group, swayed by a common motive and common emotion, is not an external addition of the traits of the particular individuals, as taken either in psychological isolation or in other social compounds. The specific group mind has properties of its own which involve fusion of the various individuals into a new result, as the tones fuse in the chord. The various individuals feel a different degree of convincingness, of power, of suggestibility as regards the dominant impulse, because they are part of the social situation. A new energetic field has been established, a new individual has arisen with distinct characteristics. There is somehow a real overlapping—an immediate inhibition or reinforcement of wills, peculiar to the unique social situation. The relation here as in chemical compounds affects the natures of the terms and is not merely an external relation between abstract entities. If we must thus take the result, then the continuity must be real. Will must somehow act upon will within a common energetic field to produce individual unity. Instead of speaking of *sympathetic induction* as an elementary relation between minds, we ought rather to speak of *sympathetic conduction*. Here we have the real dynamics of social "contagion."

In the overlapping of mental fields, it is not necessary that the impulse of each should travel to all. The living continuity may be an overlapping from next to next, like the intersection of circles, or as the sea is continuous from shore to shore though each wave gives up its impulse to the next. Beside these next-to-next continuities there are also the more distantly mediated continuities across space. The telephone and telegraph carry mind—actual mind—and "intelligence" over great distances and past numerous by-stations, establishing mental unities irrespective of proximity. My unity is with the person at the other end of the 1,000-mile telephone connection, rather than with the person outside the booth. There is bound to be, therefore, considerable diversity of opinions and sentiments in complex wholes such as a nation. But with it there must be implied,

at least subconsciously, a sense of common direction. This is focalized ordinarily by the consciousness of a common tradition and a common group name. In times of stress—a case of national danger or of family honor—this consciousness becomes intensified into active loyalty to a common ideal.

It is through the variety of social situations that the self comes to know its own characteristics. No man liveth unto himself; we live only in situations. And the most important situations for knowing ourselves are these common reactions, when we feel each others' tension, conflict, and sympathy. We exist in constellations, whose mutual attraction or repulsion we feel, rather than as individuals. The particular self is a later distinction, made possible largely because of the variety and the complexity of social situations into which civilized man enters as compared with tribal man. This, with his abstract name, enables himself and others to dissociate him from particular contexts and to regard him as an independent personality. But even this abstraction is a social function and is rather a discrimination of a group of certain constant traits within a variety of situations than an independent existence, which would mean nothing.

Not only is the social field of mind *intuited* as having its own unique traits as an individual, but it must be so dealt with in our *practical relations.* It commands our loyalty or antagonism as an individual. This is very different from the loyalty or antagonism which we show toward particular components. It may even be the direct opposite. We may love the particular person and yet hate his nation, or *vice versa.* This loyalty or antagonism to the group is not an attitude to a mere collection of particular persons, but to a solidarity or unity that includes them and in a measure makes them what they are. In savage life where persons are not abstracted from the group, no difference is made in the treatment of the isolated person and the group. The religious command to the ancient Hebrews was to exterminate indiscriminately the members of another nation. These were not conceived as having potential relations as possible members of the conquering group. The more common custom among primitive nations was to preserve the conquered as slaves of the conquerors. This, however, was a merely instrumental and external relation. In the case of the subordinate unity, the family, the individual member was not, any more than in the nation, conceived as a potential member of other families. Even after marriage he remained a part of the family of the patriarch, and subordinate to it. It is in the *complexity* of the potential relationships of civilized life that the individual comes to stand out as having a dignity and independence apart from any one complex.

In studying the nature of the social mind, we must proceed empirically, as we do in the case of the particular mind. In the case of the social mind, as in the case of the particular, we can study the subject-object relation, the unity, the identity, the worth, and the immortality of the individual concerned. As regards the *subject-object relation,* there is in the case of the social mind, the dominant, selective will, and there is the object aimed at. While there is a many-headed focus of the social consciousness, the real subject, which evaluates and decides, is not the particular individual, but the field of common tendency and emotion. It is the group-will which decides through the particular person. This will selects differently—emphasizes different values, has different inhibitions and releases, from the individual will. It may select to sacrifice, when the individual would conserve; it may even disregard the individual's claims altogether. The individual can say: I live, yet not I, but the common will which lives in me.

The leader is no exception to this. He is the function of the group, swayed by its common interest and in turn swaying it by his affirmation. The leader and the led are part of the same social situation—victims of the same illusions, subject to the same exaggerations, fascinated by the same ideals. Only because the leader and the led are controlled by the same values can the relation exist. There could have been no Napoleonic age of sacrifice and devastation, if the people had not shared with their leader the false dreams of military glory and of bloody conquest. They were alike victims of the illusions of the age. The leader may grasp the situation more clearly than the rest; he may divine what the others want; but in the end he only leads because he symbolizes the ambition and ideals of the led.

In this social situation, the intellect plays its due rôle, as it does in individual life. The object aimed at calls up the appropriate associations or means for its realization; and the movements and ideas spread from one to another by imitation—all in obedience to the internal contagion and the dominance of a common impulse. Here as in the economy of the individual consciousness, the intellectual factor rises or sinks in prominence with the complexity and novelty of the task to be performed. Where there is ease and fluency of ideal coordination, the social mind, as does the particular, enjoys a sense of freedom. While in the chance-crowd and the mob, habit and spontaneous association are sufficient to satisfy the simple impulse, and the action is, therefore, mechanical, in difficult situations deliberative judgment may be called for in order to adapt

means to ends. But in either case it is the group will which is the subject, controlling the train of ideas of the various brains involved. It is a common mind tapping the resources of the individual centers.

Since this common mind is known through the intuited and practical differences to the fields which overlap, we have nothing to do with the supposed mystery of a *transcendental consciousness* over and above individual consciousness. The cognitive function, so far as we can see, must still go on in connection with the individual brains with their images and associations. What is important to the conception of a social subject is that these individual intellects, with their conscious focus, are all owned and controlled by the common field of tendency which uses them as instruments for its own end.[4]

In the group mind, too, there is the consciousness of *identity* from moment to moment—the persistence of the impulse or ideal to be realized. This, as in the case of the mob, may be a mere momentary impulse, due to the predominance of a certain primitive instinct for the time being, such as fear or anger. But it may also be a more complex and permanent tendency, involving ideal organization. The will of a nation may persist generation after generation, while individuals come and go. Through the internal changes and external vicissitudes of ages, there is still something distinct and characteristic about British mind as contrasted with French. It is a mistake to identify the social mind with the mob merely and its evanescent existence. Its identity must be judged, as we judge individual identity, by the common drift of tendencies, by the persistent traits, which overlap the various moments of its existence. This is never abstract identity, any more than it is in the case of the particular self, but the persistence of a direction of will within an ever-changing historic process.

As regards the *type of unity* which dominates social minds, here again we find the same variety as in particular minds. The unity may be largely external—the imitation and veneration of common customs and traditions—or it may be a thoroughgoing unity of common ethical ideals and the recognition of common claims and responsibilities. Only in the highest stages of development is the latter type of unity dominant. With the group mind, again, as with the particular mind, it is only through some great crisis that it discovers what it really means, that its dominant tendency rises to a conscious purpose and that conscious loyalty to such an ideal becomes a guiding emotion in its conduct. In the absence of such crises, the ideal is implicit and life becomes routine, guided largely by the external associations of custom.

[4] Contrast with this view the subjective standpoint of Dr. Marshall, "Consciousness" (Macmillan), pp. 173 ff.

As regard the *worth* of social minds, this as in the case of particular minds, must be determined by the dominant ideal. Does its leading furnish the largest harmony and realization of the particular factors involved? Does it produce proper control of the primitive by the ideal, and yet give the primitive its due? Does it play the whole scale of values possible to human nature? Does it furnish the fullest possibility of development for the future? Then it has realized the maximum of worth. If, on the other hand, the common direction of tendency is produced merely by the intersection of a certain level of human nature to the inhibition and neglect of others, more particularly if this level be that of the primitive tendencies of impulsive satisfaction, then the social mind, as the particular, becomes immoral.

Finally, as regards the immortality of social minds, they will survive as individuals will survive, if they are recognized as furnishing permanent leading in the growing process of history. Here as a matter of fact the immortality of the individual and that of his group are inseparable. The immortality of the Greek mind will survive while the minds of Homer and Plato survive. In them lives the genius of the Greeks, even as they live in its atmosphere and give articulate meaning to its tendencies. The merest fragment of a Greek artist is alive with the Greek mind. Neither individual nor social will depends upon physiological vehicles, once it has created for itself a spiritual body of art, science, and institutions. In these lives the real will, the real purpose of a people. Connect with this spiritual field of energy, and you feel the influx of its blood, with new capacities for growth and appreciation. Whenever history has connected vitally with the Greek mind or Hebrew mind, it has meant a new epoch of life and inspiration—a new impulse towards science and art, or a new heightening of the moral level of the times. And minds which can thus energize and transform mankind are not dead, though for a time they may be disconnected from history. In the unified self of human development, they continue their full significance and life. And if there is an overarching spiritual communion, greater than humanity, enveloping and conserving spiritual values, these social minds, we may believe, have a unique individual immortality within it, proportionate to their permanent significance.

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"FLUCTUATIONS OF ATTENTION" AND THE REFRACTORY PERIOD

IN an interesting and suggestive article published some two years ago[1] Professor Wallin suggested that it seemed possible to connect the fluctuations of attention as observed in reversible perspective and in observations of minimal stimuli with the refractory period of the reflex as it has been developed by modern physiologists, particularly by Sherrington. The obvious difficulty in the way of relating the two phenomena lies in their difference in duration. The intermittences in attention usually mentioned, reported by Lehmann, Marbe, Urbantschisch, and others, come every three to ten seconds or more, while the refractory period lasts only from one tenth of a second to a second at the maximum. During some years past Mr. Billings and Mr. Work have been studying in my laboratory and under my direction another periodic fluctuation that corresponds more closely to the period of the refractory phase of the reflex and which has several characteristics that make plausible the assertion that it is the sensory correlate of the refractory period of the reflex.

The phenomenon first attracted my attention in connection with recording the ordinary so-called attention waves. I noticed that frequently I would be uncertain just at what time the gray ring on the Masson ring had disappeared. I would seem to be distracted at the moment that I desired to notice it most. I would see that it had vanished, but could not see it go. This suggested that the most careful observation was not continuous, and that there was another periodic alternation of attention that was shorter than the usual attention wave, and superimposed upon it. Acting upon this suggestion Mr. Work began to experiment with several persons to determine whether such an intermittence of sensation was common, what its length might be, and to determine how it might be influenced by different conditions. When he was compelled to discontinue his work, Mr. Billings took it up and extended it. He will soon publish his results in detail.

The method of attack was perfectly simple and direct. A dot was placed before the subject and he was asked to press upon a key during the period when he was occupied with the dot, to lift his finger when he was distracted by anything whatever. Each subject worked with was found to give evidence of the fluctuation, and for all the different sorts of material investigated. Dots, parts of pictures, tones, and pressures were used as stimuli and all were found to be intermittent. There was always some difficulty in keeping the records since the observer often forgot to notice that he was not conscious of the stimulus in his interest in the distracting stimulus or event. It is

[1] This JOURNAL, Vol. VII., page 33.

the one instance in my knowledge in which the observation of the conscious process really interferes with the conscious process, as the older theoretical objections to introspection assumed that it must. Here interest in the mental process interfered with recording the changes rather than *vice versa*. The observer would remember after attention had wandered to several other things that it had wandered and would then lift his finger. He would be conscious that several things had been attended to, but could record the whole series only as continued attention to the stimulus. This source of error in the measurements was always present and tends to make all values given for the time of attention to an object too large.

Another difficulty that was much in evidence early in the observations was that it was hard to distinguish between assurance that the dot had not vanished objectively and its continuous presence as a conscious process. One might be certain that the dot were still present all the time, but not have observed it continuously. In this respect these alternations are different from the "attention wave" in the classical use of the term. Those can frequently be seen to vanish or seen to reappear. These can only be recorded in retrospect as an awareness that one was not looking just before. As soon as the observer becomes conscious that he is not looking his attention is at once attracted to the object, and it again enters consciousness. It is hard for the inexperienced observer to believe that the object has not been in consciousness all the time, since he is certain that the stimulus has been acting continuously. It is this "stimulus error" undoubtedly that has prevented the phenomenon from being observed earlier. The practical certainty that an object persists obscures the intermittence of its image. Another difference between the older recognized "attention waves" and these is that in the former the fluctuations are confined to stimuli of liminal intensity while these affect all stimuli, whatever their intensity. This difference contributes in some degree to the difficulty mentioned above of discriminating between objective persistence and subjective intermittence.

The general results showed that all of the individuals could with a little practise observe the fluctuations and record them. Occasionally at first they would be sceptical about their existence or their ability to register them, but a few minutes' training would bring them out and a few hours would serve to give sufficient training to produce satisfactory records. The times varied somewhat for different subjects and for the same subjects, in the different series. The range for most was from 0.2 second to 6 seconds. The average for the different subjects ranged from about 1.0 second or a little under to 2 seconds. The average is probably too high for two reasons. The

first is due to the frequency with which disappearances are overlooked through interest in the distracting stimulus or process. Even in the most successful series these were large in number. The second depends upon the fact that each fluctuation recorded really involves two acts, one the turning to the distraction, the other the recognition that distraction had taken place. To obtain the length of each single mental wave it would be necessary to divide by two for this correction, and that would still leave the averages too large for the length of the longest period that one can attend. If we compare these reduced values we would find that the periods of attention would be of approximately the same length as the reflex and its refractory period, from .1 to 1.0 second as noted in the beginning of the article. It should be added that this time could not be changed by voluntary effort. The wave was of the same length when a strong effort was made to hold the attention to the one object as when consciousness was permitted to follow its natural course. One of the few factors that showed any effect upon the length of attention was increasing the size or complexity of the object attended to. This seemed to lengthen the period, as might be expected, since the large object would permit many different phases or parts to come under observation successively. This was not to be ascribed to the lengthening of the separate impulses, but merely to the fact that the changes do not necessarily bring new objects into consciousness. As the experiments involved in all some twenty thousand observations, it would seem that considerable weight must be given to the conclusion.

We may conjecture from these observations that just as motor discharges are strictly limited in the rate at which they may repeat themselves by the fact that the discharge of the nervous impulse is intermittent or rhythmical and that each discharge is followed by a period of incapacity, the appreciation of objects through the senses is similarly intermittent, that consciousness is made up of pulses that can not last more than a second or so. The apparent continuity of a conscious state is due to the rapidity with which these pulses succeed each other and to the fact that it is assumed that objects are present persistently between the pulses. This is probably also due in part to the fact that objective change will invariably attract attention to the object from the distracting stimulus. When attention has not thus been forcibly attracted it is assumed that the object has been persistently present, and this is mistaken for continuous observation. These pulses come every 0.2 second or so, are fairly constant for all conditions, can not be influenced by voluntary effort or desire and affect all external impressions. It follows, if these results be accepted, that all consciousness or at least all observation of external events is intermittent. What is in effect continuous observation is made up of a number of

rapidly following views that are interpreted to be persistent and uninterrupted. As one can hold the hand fairly steady in spite of the fact that the impulses that keep the muscles contracted are intermittent, so the perception of an object, or of a small part of the object, seems continuous in spite of the fact that the observation of no single phase of it can last more than a fraction of a second.

A study of the order and duration of the distracting stimuli indicates that this constant coming and going of consciousness holds for ideas as well as for sensations. In several series of experiments, the observer was asked to press a key whenever the distracting stimulus altered as well as when the object observed disappeared, and then was asked to make a list of the distracting events in order. This showed that memories were quite as often the distracting event as external things. It was found, as would be expected from older work on association, that these succeeded each other at about the same rate as the external sensations and had on the whole about the same laws and conditions. The general statement may be extended then to say that the entire stream of consciousness is made up of a number of small jets that change their character from once to several times a second. That these jets may be of external or subjective origin, and whatever their origin they are pieced together to constitute the series of experiences. The continuity of the stream comes from the use that is made of it rather than from its essential character, if these may be distinguished. The times of association, like the time of perception or the minimum of attention, might then be related to the time of discharge and recovery of the cortical cells.

It might be noted also that this time is within the range of several of the times that have a psychological importance and which at different times and by several authors have been referred to the older longer "attention waves" in spite of the fact that there was a marked difference in the length of the two times or processes. Thus the indifference time for estimations of time intervals is given between 0.5 and 0.75 second, which is about the time that it would be possible to keep a single tone in consciousness without change. The displacement of one of two stimuli by attention in the complication experiment may be nearly as large as half of our shortest period. Wundt early offered the periodic character of consciousness as an explanation for this. But the then known fluctuations were altogether too long. Our periods are still pretty long, but if it is assumed that the displacement represents the time between the peaks of two alternating series of impressions, they might be brought into somewhat close connection. Just beyond the outer limit of our range stands the most satisfactory period of preparation for a reaction. If a signal is given from one to two seconds before the stimulus it is found that the reac-

tion is shortest. This again may be related to the time that must elapse between one apex of attention and the next. One might also suggest that the specious present was limited by the time that a simple sensation could receive attention or persist in consciousness. This seems, however, to be limited, by the memory after-image, which in turn evidently lasts through a number of these shortest alternations, rather than by the single pulse of response. It should of course be said that it is hardly probable that all of the other times should prove to be ultimately connected with this period of maximum duration of a simple conscious experience, but it is at least significant that the time required for association, the indifference point for the comparison of intervals, the most favorable time of preparation for a reaction, should lie within the limits that our observers gave as the minimum time between successive appreciations of a simple object, and this also corresponds fairly closely to refractory period of the reflex. How they may all be related is not always clear, but each has been regarded as connected with the old "attention wave" by one or more authorities, in spite of the difference between these absolute durations. We may leave the more detailed discussion of this point to others. Our purpose is fulfilled when it is seen that the length of attention waves as observed corresponds with the times of other processes that have been or may be connected with them.

A secondary question arises as to the relation of these fluctuations to the longer and earlier described "attention waves." It seems probable that the two are of altogether different nature and origin. The times do not at all overlap. They differ, too, in that in these short pulses the object is always appreciated as in consciousness if one definitely looks for it, while the minimal stimulus that fluctuates in the longer waves is out of consciousness and can not be brought back by attending. Again these short alternations affect stimuli of all intensities, are not confined, as are the others, to faint stimuli. That they are different seems clear from the fact that the shorter may be a hindrance to the appreciation of the longer waves. These three considerations suffice to mark the two sets of fluctuations as of fundamentally different character and probably of different origin. The longer waves may be related to the long circulatory waves as I and several of the workers in my laboratory among others found evidence for, or they may be related to fatigue processes in the sense organ as Ferree thought. These new shorter ones are more directly connected with the ultimate perceiving process and from their times as indicated above seem related to the latent period and period of recovery of the sensory neurones concerned in consciousness.

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DISCUSSION

"EVERYBODY'S WORLD" AND THE WILL TO BELIEVE

A READING of Professor Fullerton's recent volume, "The World We Live In," has left me in some doubt as to the relation between the doctrines of the new realism and the will to believe which I should like to record. In all of the chapters of this fascinating book except the last, we are again and again bidden to come back to "Everybody's World," which is the world both of common sense and of science, and to distrust any prophet whatever "who would transfigure the system of things, given in our common experience."[1] To be sure, "Everybody's World" is only a world of phenomena, but this means that we *have* a world which *does* appear to us. And this world is the only world which a sensible person will concern himself with. From the point of view of the new realism "we are relieved of the burden of a hopeless search for a reality wholly different in nature from the homely realities with which we are brought face to face every day."[2] We are at the very heart of things, or as much so as it is conceivable that we should be."[3] It is, once more, a "world which we already know pretty well, and to which we are, perforce, more or less adjusted. Our task seems to be to see somewhat more clearly and in better perspective what we have already seen imperfectly, and to make our adjustment a more reasoned one."[4] And of course it is science which alone will give us further information about "Everybody's World," and so permit of our better adjustment to it. The philosopher may attempt to see more of "Everybody's World" than is ordinarily seen either in common life or in science, but he must not expect to see anything which would in any way whatever "transform the world before our eyes."

So far well and good, and if Professor Fullerton had closed his discussion with this injunction to take "Everybody's World" just as "common life and science," find it and adjust ourselves to it and it alone, then there would be nothing to discuss except the soundness of Professor Fullerton's defense of such a realism,—and to remind the reader that in such a "world of sober earnest" one had better not entertain any illusory hopes about the survival or triumph of any human interests whatever. The reader might then have been referred to the last paragraph of Mr. Russell's "The Free Man's Worship" for information and solace with respect to the appropriate attitude in the presence of "Everybody's World" of common life

[1] Page 165.
[2] Page 164.
[3] Page 255.
[4] Pages 163–4.

and of science. He would, of course, also be warned not to let any dissatisfaction with the inevitable fate of all human interests at the hands of Everybody's World of common life and science impugn in the slightest the finality and ultimateness of just that world. For precisely this is the one sure outcome of philosophy.

With how much surprise, then, does one discover that in the final chapter of Professor Fullerton's book it is implied that as a man, if not as a philosopher, one might well have *some* respect for the will to believe (how much is not precisely specified). For, the "Will to Believe is a social phenomenon," and "both in Everybody's World and in the World of the Scholar, there are dim distances, shadowy outlines, subdued and faintly apprehended radiances, which give soul to the picture."[5] There are even in Everybody's World "historic faiths which claim the allegiance of whole nations . . . weighted with the authority of a rich past . . . which draw man close to man in a common hope[6] . . . which seem to embody a Life, contact with which has been prized by countless multitudes, and in approaching which man has sought and found consolation."[7] *Besides* "adjusting ourselves to what is definitely known of reality" (which is the only sound injunction for realism to give), we are also, it seems, "to face life bravely, giving play to hope and confidence in the Heart of the World."[8] But was not the entire criticism of all the false separations of appearance and reality, of the failures and absurdities of idealism above all based on the thesis that the world *hasn't* any "Heart," any not-immediately-to-be-experienced reality in the only sense in which I for one can understand the above injunction to have confidence in the "Heart of the World,"—and, too, the only sense in which it has been understood in the historic faiths in which the will to believe has found expression. Were we not assured that in the world of common life and of science, in "Everybody's World," we are *already* "at the very heart of things, or as much so as it is conceivable that we should be"?[9] What need or excuse for any hope or confidence in the "Heart of the World" if in Everybody's World we are already "at the very heart of things as much as we can be"? Or does Professor Fullerton intend to suggest that hope and confidence may legitimately be directed toward a future of the phenomenal world (which, we are assured, *is* the real world) in which human interests and values will be conserved? But even more than any confidence in the "Heart of the World" is such confidence in

[5] Page 272.

[6] *Cf.* the following from Russell's essay, page 69: "United with his fellowmen by the strongest of all ties, the tie of a common doom, . . ."

[7] Page 268.

[8] Page 273.

[9] Page 255.

the future of the phenomenal order wholly baseless *if* we accept as literally final about the world everything of which science and common sense assure us. Of course, in Everybody's World, as filled out by science, there are some empirical values whose existence and temporal stability one may legitimately hope for and believe in,—but within very definite limits. But does any one really suppose that it is *this* confidence, *this* faith, which is concerned in that will to believe expressed by the historic faiths "rich in the associations which feed helpful emotions, . . . which seem to embody a Life, contact with which has been prized by countless multitudes?"[10]

Let us indeed be quite clear as to where we stand. If philosophy calls us back to Everybody's World of common life and science, and makes no attempt to interpret Everybody's World in any deeper or different way from that in which "everybody" interprets it, then let not philosophy, in a postscript, pretend to give us any confidence in the will to believe of the historic faiths. But if philosophy does commend a will to believe as something other than a mere deference to social tradition, then let philosophy ask what kind of a world Everybody's World would have to be in order that any such confidence might be other than a survival or a superstition. Perhaps an asking of this question would have led Professor Fullerton to a somewhat different account of some of the philosophies which have tried to see Everybody's World as a world in which men not only *do* "cherish hopes and ideals which seem not of our commonplace every-day world,"[11] but a world in which this occurrence itself finds some justification.

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REVIEWS AND ABSTRACTS OF LITERATURE

The Sexual Life of the Child. Dr. ALBERT MOLL. Translated by Dr. Eden Paul. London: Allen and Company. Pp. 339 + 15.

Ever since Freud, some fifteen years ago, began to publish his observations and conclusions showing that the sexual life of the child not only existed, as had previously been denied, but was of an unexpected richness, interest in the subject has been gradually increasing, and its importance for both pedagogy and psychopathology has become more and more realized. Moll attempts here to give expression to this general interest by devoting to the subject a volume of considerable dimensions.

The chapter-headings will give some notion of the ground covered: I. Introductory and Historical. II. The Sexual Organs—The Sexual

[10] Page 268.

[11] Page 268.

Impulse. III. Sexual Differentiation in Childhood. IV. Symptomatology. V. Pathology. VI. Etiology and Diagnosis. VII. Importance of the Sexual Life of the Child. VIII. The Child as an Object of Sexual Practices. IX. Sexual Education.

Moll points out that in the past too much attention has been paid the childhood sexual life of perverts to the neglect of that of the normal, and combats, with right, the resulting conclusion that sexual manifestations in childhood are a sign of morbid development; he compromises, however, at the age of seven, holding quite arbitrarily that before this time "the occurrence of manifestations of the sexual impulse must arouse suspicions of the existence of a congenital morbid predisposition." He admits that voluptuous sensations may occur in the normal before this period, but would not call them sexual (though after the age of seven he would). The mutual examination and exhibition of genital organs he thinks is dictated by curiosity, not by the sexual instinct, though the same acts later on are of course sexual. Nevertheless he fully admits the general importance of the subject: "When we consider the enormous importance and great frequency of the sexual processes of the child, we are positively astounded at the manner in which this department of knowledge has been ignored by those who have written on the science and art of education, and by those psychologists who have occupied themselves in the study of the mind of the child."

Since Freud is the only author who has proffered a theory of sexual evolution in the individual, and it is he who has brought the childhood period to the foreground of interest in this respect, one naturally anticipates that in a book devoted to this subject Freud's conclusions will receive due consideration, or at least that they will be properly described. In this anticipation the book disappoints us, for Freud is referred to only quite incidentally and his views are nowhere discussed; indeed the author allows himself to make the remarkable statement that "Freud has not systematically studied the individual manifestations of the sexual life of the child." A few of his isolated conclusions are casually quoted, only to be met with a flat denial of their validity, the author not finding it necessary to give any reasons or bring forward any evidence for his opinion. His pointed endeavor to depreciate Freud sometimes carries him to unintended extremes, of which the following is an example: In discussing the subject of non-genital erogenous zones (page 91) he speaks of the anal region and then adds, "Other erogenous zones are also at times found in children, but not often," evidently forgetting the lips, which surely is the least unequivocal of these zones in every human being. He deals with Freud's view that repressed sexuality is the cause of morbid anxiety merely by discussing whether anxiety can lead to sexual excitation. The personal feeling constantly interpolated on the subject of Freud's work greatly detracts from the scientific value of the book.

Some, though only a part of, his divergence from Freud is due to the different conceptions of sexuality held by the two writers. Whereas Freud attempts genetically to trace adult sexual manifestations to their

earliest origins in the individual, and maintains that it would be unreasonable to expect to find the sexual life of the child to be the same as that of the adult, Moll proceeds to the opposite extreme; he not only refuses to regard as sexual in the child any act or function that is not obviously so also in the adult, but, as we have seen, even denies this term to a number of acts which in the adult would certainly be called sexual. Freud therefore widens the conception of sexuality, while Moll narrows it. Another important ground for divergence is the question of method. Moll says that there are three methods available for such a study: (1) experiment (castration, etc.); (2) the observation of children, which is largely vitiated by both the child's inability to describe his sensations and his feeling of shame towards any adult; (3) the later memories of adults. The latter, however, are seriously imperfect, both in extent, the greater number being forgotten, and in accuracy, important subsequent distortions having falsified them in important particulars. Moll sees no way out of this dilemma, and therefore has to content himself with material that is of necessity poor from a scientific point of view. Freud, on the contrary, having devised an exact method, with a reliable technique, namely, psycho-analysis, has been able to correct both these imperfections in the later memories, *i. e.*, to resuscitate what had been forgotten, and to correct what had been distorted. Moll, it is true, will have nothing to do with psycho-analysis, which he says consists in making arbitrary interpretations at will, but it is throughout plain that he is talking without any knowledge whatever of the method, so that his opinion of it is of little interest.

The book as a whole contains many useful and valuable sections, notably those on the legal and educative aspects of the subject, and it may serve to direct attention to an important and neglected field of study; it can not, however, be regarded as having any great scientific value. The translation is as a rule accurately done, and is written in a clear and good style; Dr. Paul has evidently taken great pains with his task, as is shown by, for instance, the useful explanatory footnotes he has added on linguistic and other difficulties. Among the corrections that should be made in a future edition are the following: The title of Freud's Drei Abhandlungen zur Sexualtheorie (Three Essays on Sexual Theory) is incorrectly quoted in German and incorrectly translated (page 14); Abraham's paper on "Das Erleiden sexueller Traumen, etc.," is curiously rendered as "The Ill Effects of Sexual Dreams," *Träume* (dreams) being confounded with *Traumen* (traumata).

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The Influence of Caffein on Mental and Motor Efficiency. H. L. HOLLINGWORTH. *Archives of Psychology.* New York: The Science Press. 1912. Pp. iv + 166.

The diversity of popular opinion concerning the effects of caffeinic beverages lends a special interest to this admirably and carefully planned investigation. Previous researches on the influence of caffein have been

limited for the most part to studies of ergographic performance and the effects on reaction times. While the general result has been to show the stimulating action of caffein and an increased capacity for mental and muscular work under its influence, the lack of rigorous control of experimental conditions and the small number of tests on a few individuals make any definite and exact conclusions concerning the influence of caffein on mental and motor processes doubtful. The present investigation was undertaken to secure unambiguous evidence on this problem for the Coca-Cola Company, by whom the research was financed, and the results have been used as evidence in litigation before the federal courts.

The experiments were made on sixteen subjects, ten men and six women, over a period of forty days, including an intensive experiment of three days to study the effects of caffein at close range and to determine their time relations, and an experiment of seven days to study the effects of caffein administered with syrups. The doses, in capsule form, except in the last experiment, varied from 1 to 6 grains and were administered to one squad at half past ten in the morning alternately three days in succession and then sugar of milk three days, to a second squad caffein and sugar of milk on alternate days at the lunch hour, and to a third squad caffein and sugar of milk on alternate days from two and a half to three hours after lunch. The control squad was given only sugar of milk daily.

The tests employed were as follows: three motor tests of speed (tapping test), steadiness, and coordination (three hole test), three simple association tests of different degrees of complexity, association of ideas and words with simple objects of experience (color-naming test), association of one idea with another specific idea (opposites test), association of an idea with a specific task or situation (calculation test), two tests of sensory discrimination and attention (cancellation test and discrimination reaction-time). The questionnaire, the daily health book kept by each subject, and introspective notes furnished information on the relation of caffein to the quality and amount of sleep and to general health.

The effect of caffein on the speed of motor processes seems to be a stimulation, sometimes preceded by a brief and slight initial retardation, the magnitude of the stimulation varying directly with the size of the dose and being relatively slight when the caffein is taken in the forenoon. The effect, varying with the size of the dose, begins from 45 to 90 minutes after administration and persists from one to two hours for doses of 1 to 3 grains and as long as 4.5 hours for 6 grains. The effect on steadiness is a slight nervousness after doses from 1 to 4 grains and a pronounced unsteadiness after 6 grains, which begins within an hour or so after the dose and is still greater after 3 to 4 hours. The effect of small doses on coordination is stimulation, while that of larger doses is retardation, slight when taken in the morning, and greatest when taken in the afternoon without food. The magnitude of the caffein effect varies inversely with the body weight of the individual tested, a result which appears to hold for both the mental and motor tests. One subject was used to test

throughout four weeks the influence of caffein on speed and quality of performance in typewriting, the general result being an increase in speed with small doses of caffein alkaloid (1 to 3 grains) and a retardation with larger doses (4 to 6 grains), and a superiority in quality as measured by the number of errors for the whole range of doses.

The general result with the three association tests is stimulation, more apparent after the smaller doses than after the larger ones. The effect begins in 1 to 2 hours when the caffein is taken in a syrup and from 2 to 3 hours when taken in capsule form. The stimulation in the opposites and calculation tests is present 6 to 7 hours after the dose and there is evidence that the influence of caffein is still operative the following day, though it is difficult to disentangle the effects of the caffein from general practise effects. In general the effect on higher mental processes comes more slowly and is more persistent, while with motor processes the effect comes quickly and is transient.

The effect on discrimination reaction time with small amounts of caffein is a retardation, accompanied by a greater number of false reactions, with larger amounts after two hours a considerable stimulation. The cancellation test, owing to individual differences in method of performance and variations in the same individual at different times, gave no very definite results.

The effect of small doses of caffein alkaloid (1–4 grains), taken either in the pure form or accompanied by syrup, on sleep is unappreciable except in a few individual cases. With 6-grain doses there is a marked sleep impairment with most subjects, an effect which is greatest when the dose is taken without food. The two principal factors which seem to modify the degree of caffeinic influence are body weight and the presence of food in the stomach at the time of the dose. The general health of the subjects improved during the 40 days, a result attributable to the regular régime of life. It is noteworthy that no secondary reactions or after effects of importance were noted.

The widespread consumption of caffeinic beverages seems to be justified by the results of the experiment. The author carefully points out, however, that the question of the continuous use of the drug and the effect of caffein in tea or coffee (a cup of coffee contains about 2.5 grains of caffein) can not be answered by these experiments owing to the possible enhancing or neutralizing influence of other non-caffein ingredients.

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Une philosophie nouvelle, Henri Bergson. EDOUARD LE ROY. Paris: Alcan. Pp. v + 208.

This books comes to us fortified by the following words from M. Bergson himself: "Over and above the method, you have caught the *intention* and the *spirit*. . . . This study could not have been more conscientious or more faithful. . . . In the measure that it advances, it gives evidence of an increasing effort of condensation; one has the feeling of a progressive rolling up of the exposition on itself, similar to that rolling up by which

I have characterized *real duration.* To give such a feeling to the reader, much more is needed than an attentive study of my works—the faculty of re-thinking, in a personal and original manner, what is therein set forth. Nowhere does this sympathy show more than in the last few pages where you have indicated in a few words the possibilities of ultimate development of the doctrine. I should have said nothing but what you have said."

To seek untruthfulness to "the master" would be, then, an ungracious task, but the book is not free from the disadvantages, although it has also the advantages, of this close doctrinal sympathy. To a reader about to approach the study of Bergson, or to one who, after a first, or a fragmentary reading, desires an *aperçu* of the whole ground covered, it should prove invaluable, and not the least of its merits is the lucid and wholly charming simplicity of the style of its author. For the already critical student, there is little to be gained from it.

The first half is in two chapters, the first concerned with "Method" and the second with "The Doctrine," of which the former is rightly made slightly predominant as of more general value. Then follow several miscellaneous sections by way of "Complementary Explanations." These, however, are disappointing. There is some talk of misunderstandings of critics, but M. Le Roy's very sympathy with his subject keeps him from understanding these misunderstandings, and from illuminating, more than M. Bergson has already done, the inevitable dark corners of so complex and new a point of view.

Apart from the historical settings, which are brief but excellent, we find everywhere *saying again* substituted for *explanation,* a repeated exposition of Bergson's own exposition. If the reader is curious as to Bergson's actual dependence upon the highly questionable biological theory known as neo-vitalism, or whether ambiguities and vacillations such as Professor Dewey seems to find, are real,[1] or why we should strive after an intuition that is merely a "luxury,"[2] he will find no shadow of help. The cruder charges of mysticism, and of the vicious circle of anti-intellectualism, are, to be sure, rebutted, but these charges are usually on a par with those that first met pragmatism, and are to-day unworthy of a scholarly critic.

There remains, then, serious work for the fellows of M. Bergson, as well as for his opponents, and it is to be regretted that M. Le Roy did not devote some of his sympathetic insight to helping them along by a more free and a more critical mode of exposition. In short, one can not help feeling that M. Bergson might have written M. Le Roy's book even better than M. Le Roy has done it, and that is a pity.

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[1] This JOURNAL, pages 645–668.

[2] "Creative Evolution," page 47.

JOURNALS AND NEW BOOKS

REVUE PHILOSOPHIQUE. October, 1912. *La religion comme type de conduite rationnelle* (pp. 321–337): LEUBA. – An extract from a French translation of Leuba's "Psychological Study of Religion." *L'oubli et la personalité* (pp. 338–358): DUGAS. – Memory expresses organization, forgetfulness disorganization of the ego. *Les tendances de la logique contemporaine* (pp. 359–378): DUFUMIER. *Revue générale. Le choix volontaire:* L. DAURIAC. *Analyses et comptes rendus.* J. Bourdeau, *La philosophie affective:* TH. RIBOT. Ossip-Lourié, *Le langage et la verbomanie:* TH. RIBOT. W. Stern, *Die differentielle Psychologie in ihren methodischen Grundlagen:* G.-L. DUPRAT. K. Krall, *Denkende Tiere:* H. PIÉRON. V. Josefovici, *Die psychische Vererbung:* G.-L. DUPRAT. J. Kollarits, *Character und Nervosität:* N. KOSTYLEFF. M. Maurice Vauthier, *Essais de philosophie sociale:* DR. S. JANKÉLÉVITCH. D. J. Hill, *L'état moderne et l'organisation internationale:* A. BAUER. M. Drouilly, *Les problèmes sociaux du temps présent:* E. D. Sp. C. Haret, *Mécanique sociale:* DR. S. JANKÉLÉVITCH. Dr. F. Muller-Lyer, *Die Familie:* DR. S. JANKÉLÉVITCH. Friedrich, *Die Bestrafung der Motive und die Motive der Bestrafung:* G. RICHARD. A. Namias, *La Pedagogia sociale de Paul Bergemann:* J. PÉRÈS. Ravá, *Il diritto come norma tecnica:* G. RICHARD. P. Teodoro Rodiguez, *Augustino, Estudios Sociales:* J. PÉRÈS. É. Terraillon, *L' Honneur:* A. JOUSSAIN. *Revue des périodiques étrangers.*

RIVISTA DI FILOSOFIA. July–October, 1912. *Henri Bergson e la cultura Contemporanea* (pp. 407–431): ALBERTO CALCAGNO. – Creative evolution is opposed both to the intellectualistic evolutionism of panlogistic hegelian dualism and to the modern scientific monism. *Il fatto educativo* (pp. 432–466): P. CARABELLESE. – The educational factor is not biological, physiological, or psychological, but teleological, *i. e.*, an artificial adaptation of one individual to others. *L'autonomia scientifica della Storia dell' Arte* (pp. 467–474): A. B. CALOSSO. – The history of art possesses a scientific criterion of its own, namely, taste, which distinguishes it from history proper, and from archæology. *La concezione del caso come ignoranza* (pp. 475–489): C. RANZOLI. – The conception of chance as ignorance is traced from Anaxagoras to Huxley; the author adopts Hume's view of chance as ignorance of causes. *La guerra di fronte alla ragione* (pp. 490–508). – Attacks the view of C. del Vecchio that war is materially destruction and slaughter, and morally deliberate violence on the part of one state to impose its will on that of another. *Note e Rassegne Recensioni e Cenni. Rivista delle Riviste. Varietà e notizie. Atti della Società Filosofia Italiana.*

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Monzel, Alois. Die Lehre vom inneren Sinn bei Kant. Bonn: Carl Gerogi. 1913. Pp. vii + 332. M. 6.

Raab, Friedrich. Die Philosophie von Richard Avenarius. Leipzig: Verlag von Felix Meiner. 1912. Pp. 14 + 163. M. 5.

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NOTES AND NEWS

On the occasion of conferring the degree of Doctor of Sciences on Professor Josiah Royce at Oxford University on February 25, the public orator, Mr. A. D. Godley, spoke as follows:

Credunt nonnulli populum cottidianis negotiis strenue occupatum non vacare philosophiæ; verum ita natura comparatum est, ut, quemadmodum hominibus, ita civitatibus adulescentia quaedam sit, et nova rerum experientia semper novos profectus faciat: nec mirum est si talis gens hominum, quam stirpe nostra oriundam jactamus, industria, inventione, vigore animi insignis, veritatis cognitionem acriter appetat. Porro, sicut prima gens mortalium ex Oriente lucem expectabat, nos eandem ex Occidente expectare didicimus; ut poetæ nostri Arthuri Clough versus pulcerrimos Latine reddam

"Sol licet in cælum tardo pede surgat Eoum,
Tractus Hesperios respice: lucet ager."

Hac gente ortus est philosophus ille, vir gravitate et facundia insignis, quem titulo honorifico ornare Academiæ nostræ placet. Non enim inter eos philosophos numerandus est qui umbratiles scholasticorum notiones secum decantant, sed potius is est qui rem in aciem deduci oportere censeat, ut homines summa voluntate, summo studio, summa relligione, contra malos mores in contentionem Virtutis, et, ut ita dicam, in militiam quandam tanquam sacramento adacti, omnes vires animi libere ac fideliter impendant.

Quippe jejunam et infructuosam eam ratus esse cognitionem quæ sit solivaga et humanitatis expers neque societatem generis humani et communitatem respiciat, tanquam e vivo fonte rivulos doctrinæ deducit. quibus aritudinem temporum reficiat, et semina virtutum bonarumque artium auctet atque elat. Hoc enim opus esse philosophiæ plurimis libris et prælectionibus confirmavit, ut desidia et veterno—pessimis illecebris—torpentes excitet, ut vinculis cottidianæ vitæ constrictos liberet, ut ægritudine sollicitos cohortetur.

Ferunt philosophum quemdam Americanum, cum consenesceret, juvenibus nonnulis de recto vitæ itinere consulentibus ita respondisse:

Astro subjungite plaustrum.

Qua sententia, Delphico oraculo digna, significere voluit, non oportere contemplatione et somniis pallescere, sed quomodo ille Hercules contra res adversas

Enisus arces attigit igneas,

totis viribus ad alta animo esse contendendum.

Igitur cum tali sit ingenio præditus, præsento vobis Josiam Royce, Historiæ Philosophiæ Professorem in Academia Harvardensi, ut admittatur ad gradum Doctoris in Scientia, Honoris Causa.

At the meeting of the Aristotelian Society on February 17, Professor R. F. A. Hoernlé read a paper on "The Analysis of Volition: Treated as a Study of Psychological Principles and Methods." The chief cause of the disagreement among current psychological theories of volition is to be found in differences of principle, *i. e.*, in the conflicting assumptions made by different psychologists about the nature and aim of psychological analysis, the methodical standpoint to be taken up, and the fundamental conceptions to be employed. Most current psychology, in the endeavor to be "scientific," begins with a standpoint so abstract that it is constantly forced, by the pressure of facts, to pass on to more concrete conceptions of mental life. This advance is made uncritically, with the result not only that important problems are left untouched, but also that different parts of the same theory rest often on contradictory assumptions. There are four problems with which every psychological theory of volition must deal: (1) Is volition complex or single? Is its character derivative or unique? (2) Does "realization" or "action" belong to the essence of volition? (3) What are the limits of a single volition within the stream of consciousness? (4) What is the relation of "volitions" to the "standing will," and of the will of the individual to the will of the state? The paper was followed by a discussion.

Professor William P. Montague, of Columbia University, has delivered the first four of his series of eight Hewitt lectures at Cooper Union. The general subject of the course is "The Great Systems of Philosophy" and the individual lectures already given have occurred as follows: March 3, "Democritus and the Philosophy of Matter"; March 10, "Plato and the Philosophy of Spirit"; March 17, "Stoic and Epicurean: The Philosophy of Conduct"; March 24, "Medieval Christianity and the Philosophy of Nature." The four remaining lectures will be given on March 31, "Descartes and the Philosophy of Nature"; April 7, "Locke and the Philosophy of Experience"; April 14, "Kant and the Philosophy of the Transcendental"; April 21, "Spencer and the Philosophy of Evolution."

The course of eight lectures given at Columbia University by Professor John B. Watson, of Johns Hopkins University, on "Animal Psychology," was completed on March 18. The topics of the individual lectures were as follows: "Psychology as the Behaviorist Views It," "The Problems of Behavior," "Methods and Apparatus in Behavior," "Sensory Responses in Vertebrates," "The Experimental Study of Instincts and Habits," "The Limits of Training in Animals."

Professor Rudolf Eucken, of the University of Jena, has completed his course of six lectures at New York University, on "The Fundamental Principles of Ethics with Especial Consideration of the Religious Problem." On March 3 and 4, Professor Eucken lectured at Columbia University.